

EXAM MACHINE

```
root@ip-172-31-18-188:~
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\hp> ssh -i "C:\Users\hp\Downloads\exam_key.pem" ec2-user@18.171.209.221
The authenticity of host '18.171.209.221 (18.171.209.221)' can't be established.
ED25519 key fingerprint is SHA256:0UmR01CL+DQMmsaak8QQRS4E0+KTpx7pf3spiNDJZk.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.171.209.221' (ED25519) to the list of known hosts.
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-172-31-18-188 ~]$ sudo -i
[root@ip-172-31-18-188 ~]# hostnamectl set-hostname exammachine.ayushi.com
[root@ip-172-31-18-188 ~]# bash
[root@exammachine ~]# passwd root
Changing password for user root.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@exammachine ~]# vim /etc/ssh/sshd_config
bash: vim: command not found
[root@exammachine ~]# yum install vim -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)          31 MB/s | 35 MB   00:01
Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)         13 MB/s | 23 MB   00:01
Red Hat Enterprise Linux 9 Client Configuration                          30 kB/s | 2.8 kB   00:00
Last metadata expiration check: 0:00:01 ago on Wed 05 Jun 2024 04:24:41 PM UTC.
Dependencies resolved.
=====
Package                               Architecture Version                               Repository                               Size
=====
Installing:
vim-enhanced                           x86_64      2:8.2.2637-20.el9_1                  rhel-9-appstream-rhui-rpms              1.8 M
Installing dependencies:
=====
```

```
root@ip-172-31-18-188:~
Complete!
[root@exammachine ~]# vim /etc/ssh/sshd_config
```

```
root@examachine:~ root@dnsserver:~
# This sshd was compiled with PATH=/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin
# The strategy used for options in the default sshd_config shipped with
# OpenSSH is to specify options with their default value where
# possible, but leave them commented. Uncommented options override the
# default value.
# To modify the system-wide sshd configuration, create a *.conf file under
# /etc/ssh/sshd_config.d/ which will be automatically included below
Include /etc/ssh/sshd_config.d/*.conf
# If you want to change the port on a SELinux system, you have to tell
# SELinux about this change.
# semanage port -a -t ssh_port_t -p tcp #PORTNUMBER
#
Port 2222
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::
#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key
# Ciphers and keying
#RekeyLimit default none
# Logging
#SyslogFacility AUTH

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#HostbasedAuthentication no
# Change to yes if you don't trust ~/.ssh/known_hosts for
# HostbasedAuthentication
#IgnoreUserKnownHosts no
# Don't read the user's ~/.rhosts and ~/.shosts files
#IgnoreRhosts yes

# To disable tunneled clear text passwords, change to no here!
PasswordAuthentication yes
PermitRootLogin yes
#PermitEmptyPasswords no

# Change to no to disable s/key passwords
#KbdInteractiveAuthentication yes

# Kerberos options
#KerberosAuthentication no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes
#KerberosGetAFSToken no
#KerberosUseKuserok yes

# GSSAPI options
#GSSAPIAuthentication no
#GSSAPICleanupCredentials yes
#GSSAPIStrictAcceptorCheck yes
#GSSAPIKeyExchange no
```

```
root@ip-172-31-18-188:~  
[root@exammachine ~]# yum install firewalld -y  
Updating Subscription Management repositories.  
Unable to read consumer identity  
  
This system is not registered with an entitlement server. You can use subscription-manager to register.  
  
Last metadata expiration check: 0:01:34 ago on Wed 05 Jun 2024 04:24:41 PM UTC.  
Dependencies resolved.  
=====
```

Package	Architecture	Version	Repository	Size
Installing: firewalld	noarch	1.3.4-1.el9	rhel-9-baseos-rhui-rpms	536 k
Installing dependencies:				
firewalld-filesystem	noarch	1.3.4-1.el9	rhel-9-baseos-rhui-rpms	11 k
ipset	x86_64	7.11-8.el9	rhel-9-baseos-rhui-rpms	46 k
ipset-libs	x86_64	7.11-8.el9	rhel-9-baseos-rhui-rpms	72 k
iptables-nft	x86_64	1.8.8-6.el9_1	rhel-9-baseos-rhui-rpms	207 k
libnftnl	x86_64	1.2.6-2.el9	rhel-9-baseos-rhui-rpms	85 k
nftables	x86_64	1:1.0.9-1.el9	rhel-9-baseos-rhui-rpms	428 k
python3-firewall	noarch	1.3.4-1.el9	rhel-9-baseos-rhui-rpms	390 k
python3-nftables	x86_64	1:1.0.9-1.el9	rhel-9-baseos-rhui-rpms	26 k
Installing weak dependencies:				
libcap-ng-python3	x86_64	0.8.2-7.el9	rhel-9-appstream-rhui-rpms	32 k

```
=====
```

Transaction Summary			
Install 10 Packages			
Total download size: 1.8 M			
Installed size: 6.3 M			
Downloading Packages:			
(1/10): libcap-ng-python3-0.8.2-7.el9.x86_64.rpm	533 kB/s	32 kB	00:00
(2/10): ipset-7.11-8.el9.x86_64.rpm	686 kB/s	46 kB	00:00
(3/10): iptables-nft-1.8.8-6.el9_1.x86_64.rpm	2.8 MB/s	207 kB	00:00
(4/10): ipset-libs-7.11-8.el9.x86_64.rpm	4.2 MB/s	72 kB	00:00
(5/10): firewalld-1.3.4-1.el9.noarch.rpm	5.2 MB/s	536 kB	00:00
(6/10): libnftnl-1.2.6-2.el9.x86_64.rpm	855 kB/s	85 kB	00:00
(7/10): python3-firewall-1.3.4-1.el9.noarch.rpm	3.7 MB/s	390 kB	00:00
(8/10): python3-nftables-1.0.9-1.el9.x86_64.rpm	1.7 MB/s	26 kB	00:00
(9/10): firewalld-filesystem-1.3.4-1.el9.noarch.rpm	852 kB/s	11 kB	00:00

```
root@ip-172-31-18-188:~  
Complete!  
[root@exammachine ~]# sudo semanage port -a -t ssh_port_t -p tcp 2222
```

```
[root@exammachine ~]# systemctl enable --now firewalld  
[root@exammachine ~]# sudo firewall-cmd --permanent --add-port=2222/tcp  
success  
[root@exammachine ~]# sudo firewall-cmd --reload  
success  
[root@exammachine ~]# systemctl enable --now sshd  
[root@exammachine ~]# systemctl status sshd  
● sshd.service - OpenSSH server daemon  
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: enabled)  
   Active: active (running) since Wed 2024-06-05 16:27:16 UTC; 26s ago  
     Docs: man:sshd(8)  
           man:sshd_config(5)  
  Main PID: 14852 (sshd)  
    Tasks: 1 (limit: 4329)  
   Memory: 1.4M  
      CPU: 13ms  
   CGroup: /system.slice/sshd.service  
           └─14852 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"  
  
Jun 05 16:27:16 exammachine.ayushi.com systemd[1]: Starting OpenSSH server daemon...  
Jun 05 16:27:16 exammachine.ayushi.com sshd[14852]: Server listening on 0.0.0.0 port 2222.  
Jun 05 16:27:16 exammachine.ayushi.com sshd[14852]: Server listening on :: port 2222.  
Jun 05 16:27:16 exammachine.ayushi.com systemd[1]: Started OpenSSH server daemon.
```

```
[root@exammachine ~]# useradd virat
[root@exammachine ~]# useradd rohit
[root@exammachine ~]# useradd dhoni
[root@exammachine ~]# useradd shami
[root@exammachine ~]# useradd pandey
[root@exammachine ~]# passwd virat
Changing password for user virat.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@exammachine ~]# passwd rohit
Changing password for user rohit.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@exammachine ~]# passwd dhoni
Changing password for user dhoni.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@exammachine ~]# passwd shami
Changing password for user shami.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@exammachine ~]# passwd pandey
Changing password for user pandey.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictionary word
Retype new password:
passwd: all authentication tokens updated successfully.
```

```
[root@exammachine ~]# usermod -s /sbin/nologin dhoni
[root@exammachine ~]# usermod -aG India virat
usermod: group 'India' does not exist
[root@exammachine ~]# groupadd India
[root@exammachine ~]# usermod -aG India virat
[root@exammachine ~]# usermod -aG India rohit
[root@exammachine ~]# groupadd Bharat
[root@exammachine ~]# usermod -aG Bharat shami
[root@exammachine ~]# usermod -aG Bharat dhoni
[root@exammachine ~]# groupadd team
[root@exammachine ~]# usermod -aG team pandey
```

```
[root@exammachine ~]# vim /etc/ssh/sshd_config
```

```
root@ip-172-31-18-188:~  
# and KbdInteractiveAuthentication to 'no'.  
# WARNING: 'UsePAM no' is not supported in RHEL and may cause several  
# problems.  
#UsePAM no  
  
#AllowAgentForwarding yes  
#AllowTcpForwarding yes  
#GatewayPorts no  
#X11Forwarding no  
#X11DisplayOffset 10  
#X11UseLocalhost yes  
#PermitTTY yes  
#PrintMotd yes  
#PrintLastLog yes  
#TCPKeepAlive yes  
#PermitUserEnvironment no  
#Compression delayed  
#ClientAliveInterval 0  
#ClientAliveCountMax 3  
#UseDNS no  
#PidFile /var/run/sshd.pid  
#MaxStartups 10:30:100  
#PermitTunnel no  
#ChrootDirectory none  
#VersionAddendum none  
  
# no default banner path  
#Banner none  
  
# override default of no subsystems  
Subsystem      sftp    /usr/libexec/openssh/sftp-server  
  
# Example of overriding settings on a per-user basis  
#Match User anoncvs  
#      X11Forwarding no  
#      AllowTcpForwarding no  
#      PermitTTY no  
#      ForceCommand cvs server  
PasswordAuthentication yes  
DenyGroups team
```

```
[root@exammachine ~]# systemctl restart sshd
```

```
[root@exammachine ~]# chage -E 2023-12-25 shami
```

```
[root@exammachine ~]# vim /etc/login.defs
```

```
root@ip-172-31-18-188:~
#
# Enables userdel(8) to remove user groups if no members exist.
#
USERGROUPS_ENAB yes

#
# If set to a non-zero number, the shadow utilities will make sure that
# groups never have more than this number of users on one line.
# This permits to support split groups (groups split into multiple lines,
# with the same group ID, to avoid limitation of the line length in the
# group file).
#
# 0 is the default value and disables this feature.
#
#MAX_MEMBERS_PER_GROUP 0

#
# If useradd(8) should create home directories for users by default (non
# system users only).
# This option is overridden with the -M or -m flags on the useradd(8)
# command-line.
#
CREATE_HOME yes

#
# Force use shadow, even if shadow passwd & shadow group files are
# missing.
#
#FORCE_SHADOW yes

#
# Select the HMAC cryptography algorithm.
# Used in pam_timestamp module to calculate the keyed-hash message
# authentication code.
#
# Note: It is recommended to check hmac(3) to see the possible algorithms
# that are available in your system.
#
HMAC_CRYPT0_ALGO SHA512
PASS_MAX_DAYS 365
```

```
[root@exammachine ~]# vim /etc/default/useradd
```

```
root@ip-172-31-18-188:~
# useradd defaults file
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=no
```

```
[root@exammachine ~]# mkdir game
[root@exammachine ~]# mkdir cricket
[root@exammachine ~]# mkdir movies
[root@exammachine ~]# chown virat:India game
[root@exammachine ~]# chmod 770 game
[root@exammachine ~]# chmod g+s game
```

```
[root@exammachine ~]# echo "%wheel ALL=(ALL) NOPASSWD: /bin/systemctl" | sudo tee /etc/sudoers.d/systemctl
%wheel ALL=(ALL) NOPASSWD: /bin/systemctl
[root@exammachine ~]# echo "%users ALL=(ALL) NOPASSWD: /bin/systemctl" | sudo tee -a /etc/sudoers.d/systemctl
%users ALL=(ALL) NOPASSWD: /bin/systemctl
```

```
[root@exammachine ~]# echo "virat ALL=(ALL) NOPASSWD: ALL, \!/usr/sbin/useradd, \!/usr/sbin/usermod, \!/usr/sbin/userdel" | sudo tee /etc/sudoers.d/virat_sudo
do
virat ALL=(ALL) NOPASSWD: ALL, \!/usr/sbin/useradd, \!/usr/sbin/usermod, \!/usr/sbin/userdel
```

```
[root@exammachine ~]# echo '%Bharat ALL=(ALL) NOPASSWD: ALL' | sudo tee /etc/sudoers.d/bharat_sudo
%Bharat ALL=(ALL) NOPASSWD: ALL
```

```
[root@exammachine ~]# chmod 0440 /etc/sudoers.d/bharat_sudo
[root@exammachine ~]# chmod 0440 /etc/sudoers.d/systemctl
[root@exammachine ~]# chmod 0440 /etc/sudoers.d/virat_sudo
[root@exammachine ~]# visudo -c
/etc/sudoers: parsed OK
/etc/sudoers.d/90-cloud-init-users: parsed OK
/etc/sudoers.d/bharat_sudo: parsed OK
/etc/sudoers.d/systemctl: parsed OK
/etc/sudoers.d/virat_sudo: parsed OK
```

```
[root@exammachine ~]# ls -ld game
drwxrws---. 2 virat India 6 Jun  5 17:04 game
[root@exammachine ~]# ls -ld cricket
drwxr-xr-x. 2 root root 6 Jun  5 17:04 cricket
[root@exammachine ~]# ls -ld movies
drwxr-xr-x. 2 root root 6 Jun  5 17:05 movies
```

```
root@exammachine:~
[1] 15477
[2] 15478
[3] 15479
15477
15478
15479
```

```
[root@exammachine ~]# sudo renice -20 -p 15477
15477 (process ID) old priority 0, new priority -20
[root@exammachine ~]# sudo renice -20 -p 15478
15478 (process ID) old priority 0, new priority -20
[root@exammachine ~]# sudo renice -20 -p 15479
15479 (process ID) old priority 0, new priority -20
[root@exammachine ~]# pkill -f "dd if=/dev/zero of=/dev/null" > /root/movies/killed.txt 2>&1
[1] Terminated dd if=/dev/zero of=/dev/null
[2]- Terminated dd if=/dev/zero of=/dev/null
[3]+ Terminated dd if=/dev/zero of=/dev/null
[root@exammachine ~]# mkdir -p movies/backup
[root@exammachine ~]# tar -czvf /root/movies/backup/config_backup.tar.gz /etc
tar: Removing leading '/' from member names
/etc/
/etc/oddjob/
/etc/sasl2/
/etc/fwupd/
/etc/fwupd/daemon.conf
/etc/fwupd/msr.conf
/etc/fwupd/redfish.conf
/etc/fwupd/thunderbolt.conf
/etc/fwupd/uefi_capsule.conf
/etc/fwupd/bios-settings.d/
/etc/fwupd/bios-settings.d/README.md
/etc/fwupd/remotes.d/
/etc/fwupd/remotes.d/dell-esrt.conf
/etc/fwupd/remotes.d/lvfs-testing.conf
/etc/fwupd/remotes.d/lvfs.conf
```

```
[root@exammachine ~]# sudo mkdir -p /usr/configuration
```

```
[root@exammachine ~]# sudo tar -xzvf /root/movies/backup/config_backup.tar.gz -C /usr/configuration
```

```
[root@exammachine ~]# sudo touch /var/log/pressure
[root@exammachine ~]# echo "auth.* /var/log/pressure" | sudo tee -a /etc/rsyslog.d/50-default.conf
auth.* /var/log/pressure
[root@exammachine ~]# sudo systemctl restart rsyslog
```

```
[root@exammachine ~]# lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
xvda 202:0 0 10G 0 disk
├─xvda1 202:1 0 1M 0 part
├─xvda2 202:2 0 200M 0 part /boot/efi
├─xvda3 202:3 0 600M 0 part /boot
└─xvda4 202:4 0 9.2G 0 part /
xvdb 202:16 0 2G 0 disk
[root@exammachine ~]# fdisk /dev/xvdb
```

```
Welcome to fdisk (util-linux 2.37.4).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.
```

```
Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0x785fc781.
```

```
Command (m for help): g
Created a new GPT disklabel (GUID: 2FB2021E-293D-F340-947C-FCB5FC11D3E2).
```



```
root@examachine:~  
Command (m for help): n  
Partition number (1-128, default 1): 1  
First sector (2048-4194270, default 2048):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-4194270, default 4194270): +500M  
  
Created a new partition 1 of type 'Linux filesystem' and of size 500 MiB.  
  
Command (m for help): n  
Partition number (2-128, default 2):  
First sector (1026048-4194270, default 1026048):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (1026048-4194270, default 4194270): +250M  
  
Created a new partition 2 of type 'Linux filesystem' and of size 250 MiB.  
  
Command (m for help): n  
Partition number (3-128, default 3):  
First sector (1538048-4194270, default 1538048):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (1538048-4194270, default 4194270): +250M  
  
Created a new partition 3 of type 'Linux filesystem' and of size 250 MiB.  
  
Command (m for help): n  
Partition number (4-128, default 4):  
First sector (2050048-4194270, default 2050048):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2050048-4194270, default 4194270): +400M  
  
Created a new partition 4 of type 'Linux filesystem' and of size 400 MiB.  
  
Command (m for help): n  
Partition number (5-128, default 5):  
First sector (2869248-4194270, default 2869248):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2869248-4194270, default 4194270): +400M  
  
Created a new partition 5 of type 'Linux filesystem' and of size 400 MiB.  
  
Command (m for help): n  
Partition number (6-128, default 6):  
First sector (3688448-4194270, default 3688448):  
Last sector, +/-sectors or +/-size{K,M,G,T,P} (3688448-4194270, default 4194270): +200M  
  
Created a new partition 6 of type 'Linux filesystem' and of size 200 MiB.  
  
Command (m for help): p  
Disk /dev/xvdb: 2 GiB, 2147483648 bytes, 4194304 sectors  
Units: sectors of 1 * 512 = 512 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disklabel type: gpt  
Disk identifier: 2FB2021E-293D-F340-947C-FCB5FC11D3E2  
  
Device      Start      End Sectors  Size Type  
/dev/xvdb1   2048 1026047 1024000  500M Linux filesystem  
/dev/xvdb2 1026048 1538047  512000  250M Linux filesystem  
/dev/xvdb3 1538048 2050047  512000  250M Linux filesystem  
/dev/xvdb4 2050048 2869247  819200  400M Linux filesystem  
/dev/xvdb5 2869248 3688447  819200  400M Linux filesystem  
/dev/xvdb6 3688448 4098047  409600  200M Linux filesystem
```

```
Command (m for help): w  
The partition table has been altered.  
Calling ioctl() to re-read partition table.  
Syncing disks.
```

```
[root@exammachine ~]# mkswap /dev/xvdb1
Setting up swapspace version 1, size = 500 MiB (524283904 bytes)
no label, UUID=3f396c67-1d5e-4a71-9205-30460e743111
[root@exammachine ~]# blkid /dev/xvdb1
/dev/xvdb1: UUID="3f396c67-1d5e-4a71-9205-30460e743111" TYPE="swap" PARTUUID="1e5ef735-5fea-4445-9539-a53899f1a154"
[root@exammachine ~]# vim /etc/fstab
[root@exammachine ~]# mount -a
[root@exammachine ~]# swapon -a
[root@exammachine ~]# free -h
```

	total	used	free	shared	buff/cache	available
Mem:	753Mi	337Mi	61Mi	6.0Mi	478Mi	416Mi
Swap:	499Mi	0B	499Mi			

```
[root@exammachine ~]# lsblk
```

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINTS
xvda	202:0	0	10G	0	disk	
└─xvda1	202:1	0	1M	0	part	
└─xvda2	202:2	0	200M	0	part	/boot/efi
└─xvda3	202:3	0	600M	0	part	/boot
└─xvda4	202:4	0	9.2G	0	part	/
xvdb	202:16	0	2G	0	disk	
└─xvdb1	202:17	0	500M	0	part	[SWAP]
└─xvdb2	202:18	0	250M	0	part	
└─xvdb3	202:19	0	250M	0	part	
└─xvdb4	202:20	0	400M	0	part	
└─xvdb5	202:21	0	400M	0	part	
└─xvdb6	202:22	0	200M	0	part	

```
[root@exammachine ~]# yum install -y lvm2
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)
Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)
Red Hat Enterprise Linux 9 Client Configuration
Dependencies resolved.
```

Package	Architecture	Version	Repository	Size
Installing:				
lvm2	x86_64	9:2.03.23-2.el9	rhel-9-baseos-rhui-rpms	1.5 M
Upgrading:				
device-mapper	x86_64	9:1.02.197-2.el9	rhel-9-baseos-rhui-rpms	145 k
device-mapper-libs	x86_64	9:1.02.197-2.el9	rhel-9-baseos-rhui-rpms	180 k
Installing dependencies:				
device-mapper-event	x86_64	9:1.02.197-2.el9	rhel-9-baseos-rhui-rpms	36 k
device-mapper-event-libs	x86_64	9:1.02.197-2.el9	rhel-9-baseos-rhui-rpms	34 k
device-mapper-persistent-data	x86_64	1.0.9-3.el9_4	rhel-9-baseos-rhui-rpms	1.0 M
libaio	x86_64	0.3.111-13.el9	rhel-9-baseos-rhui-rpms	26 k
lvm2-libs	x86_64	9:2.03.23-2.el9	rhel-9-baseos-rhui-rpms	1.0 M

```
Transaction Summary
Install 6 Packages
Upgrade 2 Packages

Total download size: 3.9 M
Downloading Packages:
(1/8): libaio-0.3.111-13.el9.x86_64.rpm
(2/8): device-mapper-event-libs-1.02.197-2.el9.x86_64.rpm
(3/8): device-mapper-event-1.02.197-2.el9.x86_64.rpm
(4/8): device-mapper-persistent-data-1.0.9-3.el9_4.x86_64.rpm
(5/8): lvm2-2.03.23-2.el9.x86_64.rpm
(6/8): device-mapper-1.02.197-2.el9.x86_64.rpm
(7/8): lvm2-libs-2.03.23-2.el9.x86_64.rpm
(8/8): device-mapper-libs-1.02.197-2.el9.x86_64.rpm
```

	Progress	Size	Speed	Time
(1/8): libaio-0.3.111-13.el9.x86_64.rpm	412 kB/s	26 kB	00:00	
(2/8): device-mapper-event-libs-1.02.197-2.el9.x86_64.rpm	406 kB/s	34 kB	00:00	
(3/8): device-mapper-event-1.02.197-2.el9.x86_64.rpm	298 kB/s	36 kB	00:00	
(4/8): device-mapper-persistent-data-1.0.9-3.el9_4.x86_64.rpm	11 MB/s	1.0 MB	00:00	
(5/8): lvm2-2.03.23-2.el9.x86_64.rpm	15 MB/s	1.5 MB	00:00	
(6/8): device-mapper-1.02.197-2.el9.x86_64.rpm	5.1 MB/s	145 kB	00:00	
(7/8): lvm2-libs-2.03.23-2.el9.x86_64.rpm	7.6 MB/s	1.0 MB	00:00	
(8/8): device-mapper-libs-1.02.197-2.el9.x86_64.rpm	2.2 MB/s	180 kB	00:00	

```
[root@exammachine ~]# pvcreate /dev/xvdb2 /dev/xvdb3 /dev/xvdb4
Physical volume "/dev/xvdb2" successfully created.
Physical volume "/dev/xvdb3" successfully created.
Physical volume "/dev/xvdb4" successfully created.
Creating devices file /etc/lvm/devices/system.devices
[root@exammachine ~]# vgcreate VG1 /dev/xvdb2
Volume group "VG1" successfully created
[root@exammachine ~]# vgcreate VG2 /dev/xvdb3
Volume group "VG2" successfully created
[root@exammachine ~]# vgextend VG1 /dev/xvdb4
Volume group "VG1" successfully extended
[root@exammachine ~]# vgcreate -s 8M VG2 /dev/xvdb3
A volume group called VG2 already exists.
[root@exammachine ~]# lvcreate -l 50 -n LV1 VG1
Logical volume "LV1" created.
[root@exammachine ~]# lvcreate -L 150M -n LV2 VG1
Rounding up size to full physical extent 152.00 MiB
Logical volume "LV2" created.
[root@exammachine ~]# mkfs.xfs /dev/VG1/LV1
Filesystem should be larger than 380MB.
Log size should be at least 64MB.
Support for filesystems like this one is deprecated and they will not be supported in future releases.
meta-data=/dev/VG1/LV1 isize=512 agcount=4, agsize=12800 blks
= sectsz=512 attr=2, projid32bit=1
= crc=1 finobt=1, sparse=1, rmapbt=0
= reflink=1 bigtime=1 inobtcount=1 nrext64=0
data = bsize=4096 blocks=51200, imaxpct=25
= sunit=0 swidth=0 blks
naming =version 2 bsize=4096 ascii-ci=0, ftype=1
log =internal log bsize=4096 blocks=1368, version=2
= sectsz=512 sunit=0 blks, lazy-count=1
realtime =none extsz=4096 blocks=0, rtextents=0
[root@exammachine ~]# mkdir -p /prod
[root@exammachine ~]# mount /dev/VG1/LV1 /prod
[root@exammachine ~]# vim /etc/fstab
[root@exammachine ~]# mkfs.ext4 /dev/VG1/LV2
mkfsFs 1.46.5 (30-Dec-2021)
Creating filesystem with 155648 1k blocks and 38912 inodes
Filesystem UUID: a02cb890-ed2c-4d91-9254-31140a79b3a3
```

```

root@exammachine:~
Superblock backups stored on blocks:
8193, 24577, 40961, 57345, 73729

Allocating group tables: done
Writing inode tables: done
Creating journal (4096 blocks): done
Writing superblocks and filesystem accounting information: done

[root@exammachine ~]# mkdir -p /test
[root@exammachine ~]# mount /dev/VG1/LV2 /test
mount: (hint) your fstab has been modified, but systemd still uses
the old version; use 'systemctl daemon-reload' to reload.
[root@exammachine ~]# systemctl daemon-reload
[root@exammachine ~]# mount /dev/VG1/LV2 /test
mount: /test: /dev/mapper/VG1-LV2 already mounted on /test.
[root@exammachine ~]# vim /etc/fstab
[root@exammachine ~]# lvextend -L 400M /dev/VG1/LV1
Size of logical volume VG1/LV1 changed from 200.00 MiB (50 extents) to 400.00 MiB (100 extents).
Logical volume VG1/LV1 successfully resized.
[root@exammachine ~]# xfs_growfs /prod
meta-data=/dev/mapper/VG1-LV1 isize=512    agcount=4, agsize=12800 blks
       =                   sectsz=512    attr=2, projid32bit=1
       =                   crcs=1        finobt=1, sparse=1, rmapbt=0
       =                   reflink=1      bigtime=1 inobtcount=1 nnext64=0
data      =                   bsize=4096   blocks=51200, imaxpct=25
       =                   sunit=0        swidth=0 blks
naming    =version 2               bsize=4096   ascii-ci=0, ftype=1
log       =internal log           bsize=4096   blocks=1368, version=2
       =                   sectsz=512    sunit=0 blks, lazy-count=1
realtime  =none                   extsz=4096   blocks=0, rtextents=0
data blocks changed from 51200 to 102400
[root@exammachine ~]# vgextend VG1 /dev/xvdb4
Physical volume '/dev/xvdb4' is already in volume group 'VG1'
Unable to add physical volume '/dev/xvdb4' to volume group 'VG1'
/dev/xvdb4: physical volume not initialized.
[root@exammachine ~]# lvextend -L 400M /dev/VG1/LV1
New size (100 extents) matches existing size (100 extents).
No size change.
[root@exammachine ~]# xfs_growfs /prod
meta-data=/dev/mapper/VG1-LV1 isize=512    agcount=8, agsize=12800 blks
       =                   sectsz=512    attr=2, projid32bit=1

```

```

=                   reflink=1      bigtime=1 inobtcount=1 nnext64=0
data      =                   bsize=4096   blocks=102400, imaxpct=25
       =                   sunit=0        swidth=0 blks
naming    =version 2               bsize=4096   ascii-ci=0, ftype=1
log       =internal log           bsize=4096   blocks=1368, version=2
       =                   sectsz=512    sunit=0 blks, lazy-count=1
realtime  =none                   extsz=4096   blocks=0, rtextents=0

[root@exammachine ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
xvda        202:0    0   10G  0 disk
├─xvda1     202:1    0    1M  0 part
├─xvda2     202:2    0  200M  0 part /boot/efi
├─xvda3     202:3    0  600M  0 part /boot
└─xvda4     202:4    0   9.2G  0 part /
xvdb        202:16   0    2G  0 disk
├─xvdb1     202:17   0  500M  0 part [SWAP]
├─xvdb2     202:18   0  250M  0 part
├─VG1-LV1   253:0    0  400M  0 lvm  /prod
├─xvdb3     202:19   0  250M  0 part
├─xvdb4     202:20   0  400M  0 part
├─VG1-LV1   253:0    0  400M  0 lvm  /prod
├─VG1-LV2   253:1    0  152M  0 lvm  /test
├─xvdb5     202:21   0  400M  0 part
└─xvdb6     202:22   0  200M  0 part

```

DNS SERVER

```
root@ip-172-31-25-100:/var/n  +  v
[root@dnsserver ~]# yum install bind bind-utils vim httpd -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)                48 MB/s | 35 MB    00:00
Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)                47 MB/s | 23 MB    00:00
Red Hat Enterprise Linux 9 Client Configuration                               30 kB/s | 2.8 kB   00:00
Dependencies resolved.
=====
Package                               Architecture      Version                                           Repository      Size
=====
Installing:
bind                                  x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms    507 k
bind-utils                           x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms    212 k
httpd                                 x86_64            2.4.57-8.el9                                      rhel-9-appstream-rhui-rpms     52 k
vim-enhanced                          x86_64            2:8.2.2637-20.el9_1                             rhel-9-appstream-rhui-rpms    1.8 M
Installing dependencies:
apr                                   x86_64            1.7.0-12.el9_3                                   rhel-9-appstream-rhui-rpms    126 k
apr-util                             x86_64            1.6.1-23.el9                                      rhel-9-appstream-rhui-rpms     97 k
apr-util-bdb                         x86_64            1.6.1-23.el9                                      rhel-9-appstream-rhui-rpms    14 k
bind-dnssec-doc                      x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms     49 k
bind-libs                           x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms    1.2 M
bind-license                         x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms     14 k
fstirm                               x86_64            0.6.1-3.el9                                       rhel-9-appstream-rhui-rpms     30 k
gpm-libs                             x86_64            1.20.7-29.el9                                     rhel-9-appstream-rhui-rpms     22 k
httpd-core                           x86_64            2.4.57-8.el9                                      rhel-9-appstream-rhui-rpms    1.5 M
httpd-filesystem                     x86_64            2.4.57-8.el9                                      rhel-9-appstream-rhui-rpms     15 k
httpd-tools                           x86_64            2.4.57-8.el9                                      rhel-9-appstream-rhui-rpms     87 k
libuv                                 x86_64            1:1.42.0-1.el9                                    rhel-9-appstream-rhui-rpms    153 k
mailcap                               x86_64            2.1.49-5.el9                                      rhel-9-appstream-rhui-rpms     35 k
protobuf-c                           x86_64            1.3.3-13.el9                                      rhel-9-appstream-rhui-rpms     37 k
python3-bind                         x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms     71 k
python3-ply                          x86_64            3.11-14.el9                                       rhel-9-appstream-rhui-rpms    111 k
redhat-logos-httpd                  x86_64            90.4-2.el9                                        rhel-9-appstream-rhui-rpms     18 k
vim-common                           x86_64            2:8.2.2637-20.el9_1                             rhel-9-appstream-rhui-rpms     7.0 M
vim-filesystem                       x86_64            2:8.2.2637-20.el9_1                             rhel-9-appstream-rhui-rpms     22 k
Installing weak dependencies:
apr-util-openssl                     x86_64            1.6.1-23.el9                                      rhel-9-appstream-rhui-rpms     17 k
bind-dnssec-utils                    x86_64            32:9.16.23-18.el9_4.1                           rhel-9-appstream-rhui-rpms    122 k
```

```
root@ip-172-31-25-100:/var/n  +  v
Complete!
[root@dnsserver ~]# rpm -q bind
bind-9.16.23-18.el9_4.1.x86_64
[root@dnsserver ~]# rpm -q bind-utils
bind-utils-9.16.23-18.el9_4.1.x86_64
[root@dnsserver ~]# systemctl enable --now named
Created symlink /etc/systemd/system/multi-user.target.wants/named.service → /usr/lib/systemd/system/named.service.
[root@dnsserver ~]# systemctl status named
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; preset: disabled)
   Active: active (running) since Thu 2024-06-06 05:25:53 UTC; 11s ago
     Process: 14749 ExecStartPre=/bin/bash -c 'if [ ! "$DISABLE_ZONE_CHECKING" == "yes" ]; then /usr/sbin/named-checkconf -z "$NAMEDCONF"; else echo "Checkin'
    Process: 14751 ExecStart=/usr/sbin/named -u named -c ${NAMEDCONF} $OPTIONS (code=exited, status=0/SUCCESS)
   Main PID: 14752 (named)
      Tasks: 5 (limit: 4329)
     Memory: 24.2M
        CPU: 69ms
    CGroup: /system.slice/named.service
            └─14752 /usr/sbin/named -u named -c /etc/named.conf

Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: zone localhost.localdomain/IN: loaded serial 0
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: zone localhost/IN: loaded serial 0
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: all zones loaded
Jun 06 05:25:53 dnsserver.ayushi.com systemd[1]: Started Berkeley Internet Name Domain (DNS).
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: running
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: network unreachable resolving './DNSKEY/IN': 2001:500:2::c#53
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: network unreachable resolving './DNSKEY/IN': 2001:dc3::35#53
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: network unreachable resolving './DNSKEY/IN': 2001:500:1::53#53
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: managed-keys-zone: Initializing automatic trust anchor management for zone '.': DNSKEY ID 20326 is now t
Jun 06 05:25:53 dnsserver.ayushi.com named[14752]: resolver priming query complete
lines 1-22/22 (END)
^C
[root@dnsserver ~]# vim /etc/named.conf
[root@dnsserver ~]# named-checkconf /etc/named.conf
[root@dnsserver ~]# cd /var/named
[root@dnsserver named]# ls
data dynamic named.ca named.empty named.localhost named.loopback slaves
[root@dnsserver named]# cp -p named.empty pubip.txt
[root@dnsserver named]# vim pubip.txt
[root@dnsserver named]# 12L, 391B written
[root@dnsserver named]#
```

```
root@ip-172-31-25-100:/var/n × + v
$TTL 3H
@      IN SOA  ayushi.fun. admin.ayushi.fun. (
                                           2024060601 ; serial
                                           1D         ; refresh
                                           1H         ; retry
                                           1W         ; expire
                                           3H         ; minimum
)

@      IN NS  dns1.ayushi.fun.
@      IN NS  dns2.ayushi.fun.
dns1   IN A    18.170.228.193
dns2   IN A    18.170.228.193
@      IN A    18.170.228.193

~
~
```

```
[root@dnsserver named]# chown named:named /var/named/pubip.txt
[root@dnsserver named]# chmod 644 /var/named/pubip.txt
[root@dnsserver named]# sudo systemctl restart named
[root@dnsserver named]# systemctl status named
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; preset: disabled)
   Active: active (running) since Thu 2024-06-06 05:42:08 UTC; 11s ago
 Process: 14892 ExecStartPre=/bin/bash -c if [ ! "$DISABLE_ZONE_CHECKING" == "yes" ]; then /usr/sbin/named-checkconf -z "$NAMEDCONF"; else echo "Checking"
 Process: 14894 ExecStart=/usr/sbin/named -u named -c ${NAMEDCONF} $OPTIONS (code=exited, status=0/SUCCESS)
 Main PID: 14895 (named)
    Tasks: 5 (limit: 4329)
   Memory: 12.4M
      CPU: 56ms
   CGroup: /system.slice/named.service
           └─14895 /usr/sbin/named -u named -c /etc/named.conf

Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './DNSKEY/IN': 2001:503:ba3e::2:30#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './NS/IN': 2001:503:ba3e::2:30#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './DNSKEY/IN': 2001:dc3::35#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './NS/IN': 2001:dc3::35#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './DNSKEY/IN': 2001:1b8:10:b#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './NS/IN': 2001:1b8:10:b#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: managed-keys-zone: Initializing automatic trust anchor management for zone '.': DNSKEY ID 20326 is now t
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './DNSKEY/IN': 2001:503:c27::2:30#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: network unreachable resolving './DNSKEY/IN': 2001:500:2d::d#53
Jun 06 05:42:08 dnsserver.ayushi.com named[14895]: resolver priming query complete
lines 1-22/22 (END)
```

```
[root@dnsserver named]# nslookup ayushi.fun localhost
Server:          localhost
Address:         ::1#53

Name:   ayushi.fun
Address: 18.170.228.193
```

```
[root@dnsserver ~]# nslookup ayushi.fun
Server:          172.31.0.2
Address:         172.31.0.2#53

Non-authoritative answer:
Name:   ayushi.fun
Address: 18.170.228.193
```

```
root@dnsserver/ x root@ip-172-31-31-27:~ x + v
[root@dnsserver ~]# yum install nfs* -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Last metadata expiration check: 0:28:21 ago on Thu 06 Jun 2024 05:25:14 AM UTC.
Dependencies resolved.
=====
Package                               Architecture      Version            Repository          Size
=====
Installing:
nfs-utils                             x86_64            1:2.5.4-25.el9    rhel-9-baseos-rhui-rpms 463 k
nfs-utils-coreos                     x86_64            1:2.5.4-25.el9    rhel-9-baseos-rhui-rpms 195 k
nfs4-acl-tools                       x86_64            0.4.2-3.el9       rhel-9-baseos-rhui-rpms 54 k
nfsv4-client-utils                   x86_64            1:2.5.4-25.el9    rhel-9-appstream-rhui-rpms 160 k
Upgrading:
device-mapper                        x86_64            9:1.02.197-2.el9   rhel-9-baseos-rhui-rpms 145 k
device-mapper-libs                   x86_64            9:1.02.197-2.el9   rhel-9-baseos-rhui-rpms 180 k
Installing dependencies:
gssproxy                             x86_64            0.8.4-6.el9       rhel-9-baseos-rhui-rpms 114 k
keyutils                             x86_64            1.6.3-1.el9       rhel-9-baseos-rhui-rpms 78 k
libev                                 x86_64            4.33-5.el9        rhel-9-baseos-rhui-rpms 56 k
libnfsidmap                          x86_64            1:2.5.4-25.el9    rhel-9-baseos-rhui-rpms 66 k
libtirpc                             x86_64            1.3.3-8.el9_4     rhel-9-baseos-rhui-rpms 96 k
libverto-libev                       x86_64            0.3.2-3.el9       rhel-9-baseos-rhui-rpms 15 k
quota                                 x86_64            1:4.06-6.el9      rhel-9-baseos-rhui-rpms 202 k
quota-nls                            noarch            1:4.06-6.el9      rhel-9-baseos-rhui-rpms 81 k
rpcbind                              x86_64            1.2.6-7.el9       rhel-9-baseos-rhui-rpms 62 k
sssd-nfs-idmap                       x86_64            2.9.1-4.el9_3.5   rhel-9-baseos-rhui-rpms 44 k
=====
Transaction Summary
=====
Install 14 Packages
Upgrade 2 Packages

Total download size: 2.0 M
Downloading Packages:
(1/16): libev-4.33-5.el9.x86_64.rpm                                884 kB/s | 56 kB  00:00
(2/16): nfs-utils-coreos-2.5.4-25.el9.x86_64.rpm                  1.0 MB/s | 195 kB 00:00
(3/16): nfsv4-client-utils-2.5.4-25.el9.x86_64.rpm                846 kB/s | 160 kB 00:00
```

```
root@dnsserver/ x root@ip-172-31-31-27:~ x + v
[root@dnsserver /]# ls
afs bin boot dev efi etc Exams home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
[root@dnsserver /]# semanage fcontext -a -t nfs_t /Exams
[root@dnsserver /]# ls -ldZ Exams/
drwxr-xr-x. 2 root root unconfined_u:object_r:default_t:s0 6 Jun 6 05:53 Exams/
[root@dnsserver /]# restorecon -vvRF /Exams
Relabeled /Exams from unconfined_u:object_r:default_t:s0 to system_u:object_r:nfs_t:s0
[root@dnsserver /]# ls -ldZ /Exams/
drwxr-xr-x. 2 root root system_u:object_r:nfs_t:s0 6 Jun 6 05:53 /Exams/
[root@dnsserver /]# vim /etc/exports
```

```
root@dnsserver/ x root@ip-172-31-31-27:~ x + v
/Exams *([sync,no_root_squash,rw])
~
~
~
```

```
[root@dnsserver /]# systemctl restart nfs-server
```

```
[root@dnsserver /]# systemctl enable --now nfs-server
Created symlink /etc/systemd/system/multi-user.target.wants/nfs-server.service → /usr/lib/systemd/system/nfs-server.service.
[root@dnsserver /]# systemctl status nfs-server
● nfs-server.service - NFS server and services
   Loaded: loaded (/usr/lib/systemd/system/nfs-server.service; enabled; preset: disabled)
   Drop-In: /run/systemd/generator/nfs-server.service.d
            -order-with-mounts.conf
   Active: active (exited) since Thu 2024-06-06 05:57:31 UTC; 28s ago
     Docs: man:rpc.nfsd(8)
            man:exportfs(8)
    Main PID: 15814 (code=exited, status=0/SUCCESS)
      CPU: 21ms

Jun 06 05:57:31 dnsserver.ayushi.com systemd[1]: Starting NFS server and services...
Jun 06 05:57:31 dnsserver.ayushi.com systemd[1]: Finished NFS server and services.
```

```
[root@dnsserver /]# exportfs -v
/Exams <world>(sync,wdelay,hide,no_subtree_check,sec=sys,rw,secure,no_root_squash,no_all_squash)
```

```
root@examamchine /]# ls
afs bin boot dev efi etc Exams home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
[root@examamchine /]# vim /etc/hosts
```



```
root@examachine:/  root@dnsserver:~
127.0.0.1    localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
18.170.228.193  servera
~
~
~
~
```

```
[root@examachine ~]# yum install nfs* mount* -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Last metadata expiration check: 0:12:46 ago on Thu 06 Jun 2024 08:55:20 AM UTC.
Package nfs-utils-1:2.5.4-25.el9.x86_64 is already installed.
Package nfs-utils-coreos-1:2.5.4-25.el9.x86_64 is already installed.
Package nfs4-acl-tools-0.4.2-3.el9.x86_64 is already installed.
Package nfsv4-client-utils-1:2.5.4-25.el9.x86_64 is already installed.
Package nfs-utils-1:2.5.4-25.el9.x86_64 is already installed.
Package nfs-utils-coreos-1:2.5.4-25.el9.x86_64 is already installed.
Package nfsv4-client-utils-1:2.5.4-25.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@examachine ~]# mkdir /paper
[root@examachine ~]# vim /etc/fstab
```

```
root@examachine:~  root@dnsserver:~
UUID=497ad222-04fa-453f-b110-ba8001d38788    /      xfs     defaults    0      0
UUID=2e0d9ec9-a82a-43cc-a8e2-c6db30e7f6a4    /boot  xfs     defaults    0      0
UUID=7B777-95E7    /boot/efi    vfat    defaults,uid=0,gid=0,umask=077,shortname=winnt 0      2
servera:/Exams     /paper      nfs     defaults    0      0
~
~
~
~
```

```
[root@examachine ~]# systemctl daemon-reload
```

```
[root@examachine ~]# mount -a
[root@examachine ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M   0    4.0M   0% /dev
tmpfs           377M   0    377M   0% /dev/shm
tmpfs           151M  5.0M   146M   4% /run
/dev/xvda4      9.2G  1.5G   7.7G  17% /
/dev/xvda3      536M  161M   376M  31% /boot
/dev/xvda2      200M   7.0M   193M   4% /boot/efi
tmpfs           76M    0     76M   0% /run/user/1000
servera:/Exams  9.2G  1.6G   7.7G  17% /paper
```

```
[root@dnsserver ~]# mkdir -p /var/www/main
[root@dnsserver ~]# mkdir -p /var/www/job
[root@dnsserver ~]# mkdir -p /var/www/aarambh
```

```
root@dnsserver- ~]# yum install wget unzip -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppStream from RHUI (RPMs)                82 kB/s | 4.5 kB    00:00
Red Hat Enterprise Linux 9 for x86_64 - BaseOS from RHUI (RPMs)                74 kB/s | 4.1 kB    00:00
Red Hat Enterprise Linux 9 Client Configuration                               30 kB/s | 1.5 kB    00:00
Dependencies resolved.
=====
Package                               Architecture      Version           Repository          Size
=====
Installing:
unzip                                 x86_64            6.0-56.el9       rhel-9-baseos-rhui-rpms 186 k
wget                                 x86_64            1.21.1-7.el9     rhel-9-appstream-rhui-rpms 794 k
=====

Transaction Summary
=====
Install 2 Packages

Total download size: 980 k
Installed size: 3.5 M
Downloading Packages:
(1/2): unzip-6.0-56.el9.x86_64.rpm                                           3.2 MB/s | 186 kB    00:00
(2/2): wget-1.21.1-7.el9.x86_64.rpm                                          12 MB/s | 794 kB    00:00
=====
Total                                                                           8.1 MB/s | 980 kB    00:00
```

```
Complete!
[root@dnsserver ~]# wget https://www.free-css.com/assets/files/free-css-templates/download/page296/healet.zip.
--2024-06-06 06:34:08-- https://www.free-css.com/assets/files/free-css-templates/download/page296/healet.zip.
Resolving www.free-css.com (www.free-css.com)... 217.168.0.242, 2001:8d8:100f:f000::28f
Connecting to www.free-css.com (www.free-css.com)[217.168.0.242]:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://www.free-css.com/assets/files/free-css-templates/download/page296/healet.zip [following]
--2024-06-06 06:34:09-- https://www.free-css.com/assets/files/free-css-templates/download/page296/healet.zip
Reusing existing connection to www.free-css.com:443.
HTTP request sent, awaiting response... 200 OK
Length: 2040237 (1.9M) [application/zip]
Saving to: 'healet.zip.'

healet.zip.                  100%[=====>] 1.95M --.-KB/s in 0.1s

2024-06-06 06:34:09 (15.3 MB/s) - 'healet.zip.' saved [2040237/2040237]

[root@dnsserver ~]# ls
healet.zip.
[root@dnsserver ~]# unzip healet.zip.
Archive: healet.zip.
  creating: healet-html/
  inflating: healet-html/about.html
  inflating: healet-html/blog.html
  creating: healet-html/css/
  inflating: healet-html/css/bootstrap.css
  inflating: healet-html/css/font-awesome.min.css
  inflating: healet-html/css/responsive.css
  inflating: healet-html/css/style.css
  inflating: healet-html/css/style.css.map
  inflating: healet-html/css/style.scss
  creating: healet-html/fonts/
  inflating: healet-html/fonts/fontawesome-webfont.ttf
  inflating: healet-html/fonts/fontawesome-webfont.woff
  inflating: healet-html/fonts/fontawesome-webfont.woff2
  inflating: healet-html/fonts/octin_sports_rg.ttf
  creating: healet-html/images/
  inflating: healet-html/images/about-img.jpg
  inflating: healet-html/images/b1.jpg
  inflating: healet-html/images/b2.jpg
```

```
[root@dnsserver ~]# ls
healet.zip.
[root@dnsserver ~]# unzip healet.zip.
Archive: healet.zip.
  creating: healet-html/
  inflating: healet-html/about.html
  inflating: healet-html/blog.html
  creating: healet-html/css/
  inflating: healet-html/css/bootstrap.css
  inflating: healet-html/css/font-awesome.min.css
  inflating: healet-html/css/responsive.css
  inflating: healet-html/css/style.css
  inflating: healet-html/css/style.css.map
  inflating: healet-html/css/style.scss
  creating: healet-html/fonts/
  inflating: healet-html/fonts/fontawesome-webfont.ttf
  inflating: healet-html/fonts/fontawesome-webfont.woff
  inflating: healet-html/fonts/fontawesome-webfont.woff2
  inflating: healet-html/fonts/octin_sports_rg.ttf
  creating: healet-html/images/
  inflating: healet-html/images/about-img.jpg
  inflating: healet-html/images/b1.jpg
  inflating: healet-html/images/b2.jpg
  inflating: healet-html/images/client.jpg
  inflating: healet-html/images/favicon.png
  inflating: healet-html/images/o1.jpg
  inflating: healet-html/images/o2.jpg
  inflating: healet-html/images/o3.jpg
```



```
root@dnsserver:~# ls
healeet-html healet.zip
root@dnsserver:~# wget https://www.free-css.com/assets/files/free-css-templates/download/page296/little-fashion.zip
--2024-06-06 06:34:57-- https://www.free-css.com/assets/files/free-css-templates/download/page296/little-fashion.zip
Resolving www.free-css.com (www.free-css.com)... 217.160.0.242, 2001:8d8:100f:f000:28f
Connecting to www.free-css.com (www.free-css.com)[217.160.0.242]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1596631 (1.5M) [application/zip]
Saving to: 'little-fashion.zip'

little-fashion.zip      100%[=====] 1.52M  --.-KB/s  in 0.1s

2024-06-06 06:34:57 (12.1 MB/s) - 'little-fashion.zip' saved [1596631/1596631]

root@dnsserver:~# ls
healeet-html healet.zip little-fashion.zip
root@dnsserver:~# unzip little-fashion.zip
Archive: little-fashion.zip
  creating: 2127_little_fashion/
  inflating: 2127_little_fashion/about.html
  inflating: 2127_little_fashion/contact.html
  creating: 2127_little_fashion/css/
  inflating: 2127_little_fashion/css/bootstrap-icons.css
  inflating: 2127_little_fashion/css/bootstrap.min.css
  inflating: 2127_little_fashion/css/lick.css
  inflating: 2127_little_fashion/css/tooplate-little-fashion.css
  inflating: 2127_little_fashion/faq.html
  creating: 2127_little_fashion/fonts/
  inflating: 2127_little_fashion/fonts/bootstrap-icons.woff
  inflating: 2127_little_fashion/fonts/bootstrap-icons.woff2
  creating: 2127_little_fashion/images/
  inflating: 2127_little_fashion/images/cody-lannom-G95AReIh_Ko-unsplash.jpeg
  creating: 2127_little_fashion/images/header/
  inflating: 2127_little_fashion/images/header/businesspeople-meeting-office-working.jpg
  inflating: 2127_little_fashion/images/header/positive-european-woman-has-break-after-work.jpg
  creating: 2127_little_fashion/images/people/
  inflating: 2127_little_fashion/images/people/beautiful-woman-face-portrait-brown-background.jpeg
  inflating: 2127_little_fashion/images/people/portrait-british-woman.jpeg
  inflating: 2127_little_fashion/images/people/senior-man-wearing-white-face-mask-covid-19-campaign-with-design-space.jpeg
  inflating: 2127_little_fashion/images/people/woman-wearing-mask-face-closeup-covid-19-green-background.jpeg
  inflating: 2127_little_fashion/images/pim-chu-z6NZ76_UTDI-unsplash.jpeg
```

```
root@dnsserver:~# wget https://www.free-css.com/assets/files/free-css-templates/download/page296/finexo.zip
--2024-06-06 06:35:19-- https://www.free-css.com/assets/files/free-css-templates/download/page296/finexo.zip
Resolving www.free-css.com (www.free-css.com)... 217.160.0.242, 2001:8d8:100f:f000:28f
Connecting to www.free-css.com (www.free-css.com)[217.160.0.242]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2094048 (2.0M) [application/zip]
Saving to: 'finexo.zip'

finexo.zip      100%[=====] 2.00M  --.-KB/s  in 0.1s

2024-06-06 06:35:19 (15.5 MB/s) - 'finexo.zip' saved [2094048/2094048]

root@dnsserver:~# ls
2127_little_fashion finexo.zip healeet-html healet.zip little-fashion.zip
root@dnsserver:~# unzip finexo.zip
Archive: finexo.zip
  creating: finexo-html/
  inflating: finexo-html/about.html
  creating: finexo-html/css/
  inflating: finexo-html/css/bootstrap.css
  inflating: finexo-html/css/font-awesome.min.css
  inflating: finexo-html/css/responsive.css
  inflating: finexo-html/css/style.css
  inflating: finexo-html/css/style.css.map
  inflating: finexo-html/css/style.scss
  creating: finexo-html/fonts/
  inflating: finexo-html/fonts/fontawesome-webfont.ttf
  inflating: finexo-html/fonts/fontawesome-webfont.woff
  inflating: finexo-html/fonts/fontawesome-webfont.woff2
  creating: finexo-html/images/
  inflating: finexo-html/images/about-img.jpg
  inflating: finexo-html/images/about-img.png
  inflating: finexo-html/images/client1.jpg
  inflating: finexo-html/images/client2.jpg
  inflating: finexo-html/images/favicon.png
  inflating: finexo-html/images/hero-bg.png
  inflating: finexo-html/images/next.png
  inflating: finexo-html/images/prev.png
  inflating: finexo-html/images/s1.png
  inflating: finexo-html/images/s2.png
  inflating: finexo-html/images/s3.png
```

```
[root@dnsserver ~]# chown -R apache:apache /var/www/main
```

```
[root@dnsserver ~]# chown -R apache:apache /var/www/aarambh
[root@dnsserver ~]# chown -R apache:apache /var/www/job
```

```
root@dnsserver:~# chmod -R 755 /var/www/main
root@dnsserver:~# chmod -R 755 /var/www/aarambh
root@dnsserver:~# chmod -R 755 /var/www/job
root@dnsserver:~# sudo yum install httpd -y
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscription-manager to register.

Last metadata expiration check: 0:03:07 ago on Thu 06 Jun 2024 06:34:01 AM UTC.
Package httpd-2.4.57-8.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

```
[root@exammachine ~]# systemctl restart httpd
[root@exammachine ~]# semanage fcontext -a -t httpd_sys_content_t /var/www/html
file_spec option is needed for add
[root@exammachine ~]# restorecon -vvRF /var/www/html
```

```
[root@exammachine ~]# restorecon -vvRF /var/www/html
[root@exammachine ~]# semanage fcontext -a -t httpd_sys_content_t/var/www/aarambh
file_spec option is needed for add
```

```
[root@exammachine ~]# restorecon -vvRF /var/www/aarambh
Relabeled /var/www/aarambh from unconfined_u:object_r:httpd_sys_content_t:s0 to system_u:object_r:httpd_sys_content_t:s0
```

```
restorecon: /etc:/var/www/aarambh: failed: No such file or directory
[root@exammachine ~]# semanage fcontext -a -t httpd_sys_content_t/var/www/job
file_spec option is needed for add
```

```
[root@exammachine ~]# restorecon -vvRF /var/www/job
Relabeled /var/www/job from unconfined_u:object_r:httpd_sys_content_t:s0 to system_u:object_r:httpd_sys_content_t:s0
```